Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: XTO Energy, Inc.
Well Name/Number: Barr State 34X-21
Location: SW SE Section 21 T30N R58E
County: Roosevelt **, MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 40-50 days drilling time.
Unusually deep drilling (high horsepower rig): A triple derrick rig to drill a pilot hole to 10,652' to the Duperow Formation at TD. Plugback to 9848', kick off and drill a single lateral Bakken Formation Horizontal Lateral, 19,653'MD/10,257'TVD.
Possible H2S gas production: Slight
In/near Class I air quality area: No, not in a Class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:
X Air quality permit (AQB review)
X Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments: Existing pipeline for H2S gas and sweet gas in the area._____
_____

Water Quality

(possible concerns)
Salt/oil based mud: Yes to drill pilot hole out from under surface casing to TD and intermediate casing string hole through the curve will be drilled with oil based invert drilling fluids. Horizontal lateral will be drilled with brine water. Surface casing hole to be drilled with freshwater and freshwater mud.
High water table: No high water table anticipated.
Surface drainage leads to live water: No closest drainage is an unnamed ephemeral tributary to Sand Creek, about 3/8 of a mile to the south from this location.
Water well contamination: None, surface hole will be drilled with freshwater and freshwater drilling fluids to 1,870', steel surface casing will be run and cemented to surface from 1870' to protect any ground and surface waters. Closest water well is about 3/4 of a mile to the north from this location. Depth of this domestic water well is 65'. Surface casing will be set well below the depth of this water well. No concerns.
Porous/permeable soils: Yes, sandy silty clay soils.
Class I stream drainage: No, Class I stream drainage.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of liquids (in approved facility)
__ Other: _____
Comments: 1870' of surface casing is enough surface casing to cover Base Fox Hills Formation. Surface hole will be drilled with freshwater and freshwater drilling muds to 1870'. Steel surface casing will be run to 1870' and cemented to surface. Oilbased invert drilling fluids will be recycled. Drill cuttings will be disposed of offsite. After the well has been completed, completions fluids will go to a commercial Class II disposal. No concerns.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: None, anticipated.
High erosion potential: No high erosion potential, small cut, 7.8' and small fill, up to 8.7', required.
Loss of soil productivity: None, location to be restored after drilling well, if well is nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: Yes, well site is very large, 550'X350'.
Damage to improvements: Slight, surface use is a cultivated field.
Conflict with existing land use/values: Slight.

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
X Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county road, #405 and section line trail. Section line trail, about 0.6 of a mile will be upgraded for heavy trucks and 105' of new access road will be built into this location. Oil based drilling fluids will be recycled. Completion fluids will be hauled to a Class II commercial disposal. Drill cuttings will be buried in the lined reserve pit. No concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residences about 1mile to the north northeast and about 1 mile to the southwest from this location.
Possibility of H2S: Slight
Size of rig/length of drilling time: Triple derrick drilling rig, 40 to 50 days drilling time.

Mitigation:
X Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____
Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: No
Conflict with game range/refuge management: No, no game range/refuge in the area.
Threatened or endangered Species: Threatened or endangered species identified by USFWS in Roosevelt County are the Pallid Sturgeon, Whooping Crane, Interior Lease Tern and Piping Plover. Candidate species is the Sprague's Pipit. NH tracker site lists 6 species of conern, LBaird's Sparrow, Nelson's Sparrow, Grasshopper Sparrow, Bobolink, Whooping Crane and Long-billed Curlew.

Mitigation:
__ Avoidance (topographic tolerance/exception)

__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other: _____
Comments: Private cultivated surface lands. No live water in the area. No concerns.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites None identified.
Mitigation
__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:_____
Comments: Private cultivated surface lands. No concerns.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: Horizontal Bakken Formation oil well in a 1280 acre spacing unit. No concerns.

Remarks or Special Concerns for this site

To drill a pilot hole to 10,652' to the Duperow Formation at TD. Plugback to 9848', kick off and drill a single lateral Bakken Formation Horizontal Lateral, 19,653'MD/10,257'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki
(title:) Chief Field Inspector
Date: December 21, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Roosevelt County water wells
(subject discussed)
December 11, 2010
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Roosevelt County

December 11, 2010_____
(date)

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3 in T30N R58E
(subject discussed)

_December 11, 2010 _____
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection:_____